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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,040	12/21/2001	Nishant Sinha	150.01140101	2997

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EXAMINER


DEO, DUY VU NGUYEN

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/028,040	Applicant(s) SINHA ET AL.	
	Examiner DuyVu n Deo	Art Unit 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-25, 27-31, 33 and 35-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 8-13, 15, 39 and 48 is/are allowed.
- 6) ☒ Claim(s) 6, 7, 16-25, 27-31, 33, 35-38, 40-47 and 49-79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/17/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 16-18, 21-25, 27-30, 33, 35-38, 40, 43, 45, 46, 49, 50, 52, 54-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Sachan et al. (US 2002/0111027 A1).

Sachan describes a polishing method comprising positioning a group VIII metal containing surface to interface with a polishing surface, where in the group VIII metals is selected from the group of rhodium, iridium, ruthenium, osmium, palladium, and platinum (paragraphs [0010], [0026], supplying a planarization composition in proximity to the interface,

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and planarizing the group VIII metal-containing surface, where the composition comprises 0.1%-50% wt organic compound such as mercaptoalkyl amine hydrochlorides (this would includes claimed 0.1%-10% wt organic alkyl amine group, therefore, it would read on claimed organic alkyl amine) (paragraph [0026], claim 4).

Referring to claims 16, 25, 28, 33, 41, 50, the composition further comprises of organic acids such as citric, tartaric acids (claimed organic chelating acid or complexing agent) (paragraph [0024]). The composition that uses ceria (CeO_2) abrasives would read on claimed a majority of abrasive particles is CeO_2 (paragraph [0013]).

Referring to claims 17, 18, 29 an elemental form of Pt would have more than 50 atomic percent (paragraph [0010]).

Referring to claims 21-23, the abrasive particles used include ceria, silica, and alumina (paragraph [0026]). These abrasive particles would have a hardness of no greater than about 9 Mohs.

Referring to claims 27, 58, the polishing surface can be a fixed abrasive article (paragraph [0026]).

Claim 35 has no patentable weight since Sachan disclose organic amine and diene is not necessary to be a part of the composition.

Referring to claims 49, 52, Sachan shows the polishing method is used in the forming of capacitors where the noble metals are formed on a foundation dielectric and the noble metals are polished by CMP (claimed group VIII metal formed over a patterned dielectric layer) ([paragraphs [0008], [0009]).

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Referring to claims 37, 46, 55, examples 1-3 shows the polishing method of the noble metal is carried out in one time (claimed one step). And the polishing method is typically carried out in one step (paragraph [0009]). The composition comprises salts of acids (paragraph [0024]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 7, 10, 19, 20, 31, 42, 44, 47, 51, 53, 59-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachan as applied to claims 16, 28, 41, 43, 50, 51 above, and further in view of Wang et al. (US 2003/0166337).

Sachan describes a polishing method comprising positioning a group VIII metal containing surface to interface with a polishing surface, where in the group VIII metals is selected from the group of rhodium, iridium, ruthenium, osmium, palladium, and platinum (paragraphs [0010], [0026], supplying a planarization composition in proximity to the interface, and planarizing the group VIII metal-containing surface, where the composition comprises 0.1%-50% wt organic compound such as mercaptoalkyl amine hydrochlorides (this would include claimed 0.1%-10% wt organic alkyl amine group, therefore, it would read on claimed organic alkyl amine) (paragraph [0026], claim 4).

Unlike claimed invention, Sachan doesn't describe the composition includes an oxidizing agent such as peroxide. Wang describes a method for polishing noble metals where he teaches

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the composition includes 0.05-10 wt% of hydrogen peroxide (claimed oxidizing agent) (paragraph [0012], [0020], [0024]). It would have been obvious for one skill in the art to modify Sachan in light of Wang because Wang teaches that oxidizing agent aids in oxidizing the substrate metal layer to their corresponding oxide, hydroxide, or ions and is useful when incorporated into the CMP system for polish of metals (paragraph [0020]).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 59-79 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has not shown wherein the specification teaching of the oxidizing agent in amount of no more than about 10 wt%.

Allowable Subject Matter

7. Claims 1-5, 8-13, 15, 39, 48 are allowed for the same reason in the office action sent on 10/3/03.

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Response to Arguments

8. Applicant's arguments with respect to claims 6, 7, 16-36, 38, 40-45, 47, 49-54, 56-79 have been considered but are moot in view of the new ground(s) of rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DuyVu n Deo whose telephone number is 571-272-1462. The examiner can normally be reached on 6:00-3:30; with alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DVD
7/20/04

